

Work Order ID 119642

Friday, May 16, 2014 1:54:03 PM

119642

Page 1

Item ID: D3407-043

Accept

N900040100

Setup Start

NS1

Revision ID:

D3407-043
B119642

Item Name: Tow Ring

Stop

NS2

Start Date: 5/15/14

Start Qty: 10.00

10

Cust Item ID:

Required Date: 5/15/14

Req'd Qty: 10.00

10

Customer:

Reference:

Approvals: Process Plan: MLJDate: 14-05-23 Tooling: _____ Date: _____

Run Start

NR1

QC: _____

Date: _____ SPC (Y/N): _____ Date: _____

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3407	Rev E								

100

100

Large Fab

Large Fab

Memo

0.00

102nd 14.07.14

Large Fab

Weld D3407-3/-5 using welding rod TIG174 as per Dwg D3407 & QSI
004A/R TIG174 ROD Batch: m102576

110

110

Memo

0.00

Quality Control

(10)14-07-14PD

120

120

Memo

0.00

Quality Control

(10)14-07-14PD

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date _____

Work Order update only

Work Order: _____			DISPOSITION			AGAINST DEPARTMENT/PROCESS					
			Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/>	Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/>	Water Jet <input type="checkbox"/> Prod. Eng. Coor. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/>	Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/>				
Part No. _____			NCR No. _____								
Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Design <input type="checkbox"/>											
Doc/Data <input type="checkbox"/>											
Equip/Tooling <input type="checkbox"/>											
Handling/Pre <input type="checkbox"/>											
Material <input type="checkbox"/>											
Operator <input type="checkbox"/>											
Offset/Setup <input type="checkbox"/>											
Process <input type="checkbox"/>											
Supplier <input type="checkbox"/>											
Training <input type="checkbox"/>											
Transport <input type="checkbox"/>											
Unapproved <input type="checkbox"/>											
FAULT CATEGORY											
Landing Gear			General								
Bending <input type="checkbox"/>	Bend <input type="checkbox"/>	Centre Not Concentric <input type="checkbox"/>	BOM/Route <input type="checkbox"/>	General <input type="checkbox"/>	Folio/Program <input type="checkbox"/>	Grain <input type="checkbox"/>	Hardware <input type="checkbox"/>	Outside Dimensions <input type="checkbox"/>	Pressure/Forced <input type="checkbox"/>		
Cracks <input type="checkbox"/>	Broken/Damage/Defect <input type="checkbox"/>	Crimp/Kink/Ripple/Wave <input type="checkbox"/>	Burrs <input type="checkbox"/>	Contamination <input type="checkbox"/>	Inspection Incomplete/Unqualified <input type="checkbox"/>	Instructions Incomplete/Unclear <input type="checkbox"/>	Misaligned/off center <input type="checkbox"/>	Over/Under tolerance <input type="checkbox"/>	Set-up <input type="checkbox"/>		
Cuffs <input type="checkbox"/>	Countersink <input type="checkbox"/>	Crushing <input type="checkbox"/>	Contamination <input type="checkbox"/>	Cut Too Short <input type="checkbox"/>	Misaligned/off center <input type="checkbox"/>	Misaligned/off center <input type="checkbox"/>	Misaligned/off center <input type="checkbox"/>	Part Incorrect <input type="checkbox"/>	Temperature/Cure <input type="checkbox"/>		
Heat Treat <input type="checkbox"/>	Drawing <input type="checkbox"/>	Inspection Strip in Tube <input type="checkbox"/>	Drill Holes <input type="checkbox"/>	Finish <input type="checkbox"/>	Misaligned/off center <input type="checkbox"/>	Misaligned/off center <input type="checkbox"/>	Misaligned/off center <input type="checkbox"/>	Part Lost/Missing <input type="checkbox"/>	Weld <input type="checkbox"/>		
Marks/Chatter <input type="checkbox"/>	Off-set <input type="checkbox"/>	Turning Sequence <input type="checkbox"/>	Fit/Function <input type="checkbox"/>	Out of Calibration <input type="checkbox"/>	Off-set <input type="checkbox"/>	Out of Sequence <input type="checkbox"/>	Positioned Wrong <input type="checkbox"/>	Power Loss/Surge <input type="checkbox"/>	Wrong Stock Pulled <input type="checkbox"/>		
Wave/Twist in Tube <input type="checkbox"/>									Other <input type="checkbox"/>		

Work Order ID 119642

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Page 2

Item ID: D3407-043

Accept

N900040100

Setup

Start

NS1

Revision ID:

Item Name: Tow Ring

Stop

NS2

Start Date: 5/15/14

Start Qty: 10.00

10

Cust Item ID:

Required Date: 5/15/14

Req'd Qty: 10.00

10

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

130

130

Powdercoat

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

11/28/2014

10/14-7-15. C/ 05 589

Memo

0.00

10:35 OVEN
11:05.

Powder Coating

Mask Threaded SectionSTART TIME:
TEMPERATURE: 400 FINISH TIME:

140

140

OC

Quality Control

QC3- Inspect Part Finish

0.00

DAS
27
9-89

K

8/5/2014

150

150

Packaging

Packaging

Identify as per dwg & Stock Location:

0.00

4/7/15

10x 14-7-15

Memo

DAS
26
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____

Date: _____

Work Order update only

Work Order: _____
 Part No. _____
 NCR No. _____

DISPOSITION

Rework
Scrap
Use-as-is
Suspected Unapproved

Skid-tube
Machining
Thermoforming
Large Fab

AGAINST DEPARTMENT/PROCESS

Crosstube
Small Fab
Finishing
Composite

Water Jet
Prod. Eng. Coor.
Rec/Store/Packaging
Supplier

Engineering
Quality
Other

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear	General	Outside Dimensions	Pressure/Forced Set-up
Bending	Bend	Grain	Over/Under tolerance
Centre Not Concentric	BOM/Route	Hardware	Part Incorrect
Cracks	Broken/Damage/Defect	Inspection Incomplete/Unqualified	Part Lost/Missing
Crimp/Kink/Ripple/Wave	Burrs	Instructions Incomplete/Unclear	Part Moved
Cuffs	Contamination	Misaligned/off center	Positioned Wrong
Crushing	Countersink	Mislabeled	Power Loss/Surge
Heat Treat	Cut Too Short	Misread	Other
Inspection Strip in Tube	Drawing	Off-set	
Marks/Chatter	Drill Holes	Out of Calibration	
Turning Sequence	Finish	Out of Sequence	
Wave/Twist in Tube	Fit/Function		

Work Order ID 119642

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119642

Page 3

Item ID: D3407-043

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Tow Ring

Stop

NS2

Start Date: 5/15/14

Start Qty: 10.00

10

Cust Item ID:

Required Date: 5/15/14

Req'd Qty: 10.00

10

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

**Sequence ID/
Work Center ID**

**Operation
Description**

160

QC21- Final Inspection - Work Order Release

160

QC

Quality Control

**Set Up/
Run Hours**

Tool ID

Tool #

**Plan
Code**

**Accept
Qty**

**Reject
Qty**

**Reject
Number**

**Insp.
Stamp**

0.00

0.00

MLJ 14-07-16


ATL 4-7-15

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only

Work Order: _____	DISPOSITION			AGAINST DEPARTMENT/PROCESS					
Part No. _____	Rework	<input type="checkbox"/>	Skid-tube	<input type="checkbox"/>	Crosstube	<input type="checkbox"/>	Water Jet	<input type="checkbox"/>	Engineering
NCR No. _____	Scrap	<input type="checkbox"/>	Machining	<input type="checkbox"/>	Small Fab	<input type="checkbox"/>	Prod. Eng. Coor.	<input type="checkbox"/>	Quality
	Use-as-is	<input type="checkbox"/>	Thermoforming	<input type="checkbox"/>	Finishing	<input type="checkbox"/>	Rec/Store/Packaging	<input type="checkbox"/>	Other
	Suspected Unapproved	<input type="checkbox"/>	Large Fab	<input type="checkbox"/>	Composite	<input type="checkbox"/>	Supplier	<input type="checkbox"/>	

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear	Bending	General	Folio/Program	Outside Dimensions	Pressure/Forced
	Centre Not Concentric		Grain	Over/Under tolerance	Set-up
	Cracks		Hardware	Part Incorrect	Temperature/Cure
	Crimp/Kink/Ripple/Wave		Inspection Incomplete/Unqualified	Part Lost/Missing	Weld
	Cuffs		Instructions Incomplete/Unclear	Part Moved	Wrong Stock Pulled
	Crushing		Misaligned/off center	Positioned Wrong	
	Heat Treat		Mislabeled	Power Loss/Surge	Other
	Inspection Strip in Tube		Misread		
	Marks/Chatter		Off-set		
	Turning Sequence		Out of Calibration		
	Wave/Twist in Tube		Out of Sequence		

Picklist Print

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Page 1

Work Order ID: 119642

119642

Parent Item: D3407-043

D3407-043

Parent Item Name: Tow Ring

Start Date: 5/15/14

Required Date: 5/15/14

Start Qty: 10.00

Required Qty: 10.00

Comments: IPP Rev:A05.10.14 New issue KJ/EC

IPP Rev:B 08-09-09 revE as per dwg DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D3407-3		Manufactured	No			100	Each	44.0000	1	10			
---------	--	--------------	----	--	--	-----	------	---------	---	----	--	--	--

									**				
--	--	--	--	--	--	--	--	--	----	--	--	--	--

D3407-3

Stem

Location	Loc Qty	Loc Code
WA001	44	
103663	4	
107685	20	x10
115849	20	

D3407-5		Manufactured	No			100	Each	61.0000	1	10			
---------	--	--------------	----	--	--	-----	------	---------	---	----	--	--	--

									**				
--	--	--	--	--	--	--	--	--	----	--	--	--	--

D3407-5

Ring

Location	Loc Qty	Loc Code
WA001	61	
113168	10	
113761	20	
115097	23	
115804	8	

B119560 + 10

272 14.07.14

272 14.07.14

DQA:

Date:



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date:

Work Order update only

Work Order: _____	DISPOSITION	AGAINST DEPARTMENT/PROCESS					
Part No. _____	Rework <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>		
NCR No. _____	Scrap <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>		
	Use-as-is <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>		
	Suspected Unapproved <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>			

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

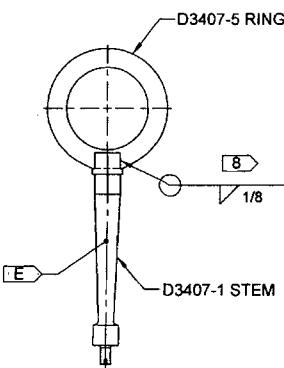
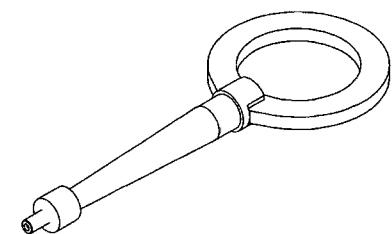
Landing Gear		General									
		Bending <input type="checkbox"/>	Bend <input type="checkbox"/>	Folio/Program <input type="checkbox"/>	Outside Dimensions <input type="checkbox"/>	Pressure/Forced <input type="checkbox"/>					
		Centre Not Concentric <input type="checkbox"/>	BOM/Route <input type="checkbox"/>	Grain <input type="checkbox"/>	Over/Under tolerance <input type="checkbox"/>	Set-up <input type="checkbox"/>					
		Cracks <input type="checkbox"/>	Broken/Damage/Defect <input type="checkbox"/>	Hardware <input type="checkbox"/>	Part Incorrect <input type="checkbox"/>	Temperature/Cure <input type="checkbox"/>					
		Crimp/Kink/Ripple/Wave <input type="checkbox"/>	Burrs <input type="checkbox"/>	Inspection Incomplete/Unqualified <input type="checkbox"/>	Part Lost/Missing <input type="checkbox"/>	Weld <input type="checkbox"/>					
		Cuffs <input type="checkbox"/>	Contamination <input type="checkbox"/>	Instructions Incomplete/Unclear <input type="checkbox"/>	Part Moved <input type="checkbox"/>	Wrong Stock Pulled <input type="checkbox"/>					
		Crushing <input type="checkbox"/>	Countersink <input type="checkbox"/>	Misaligned/off center <input type="checkbox"/>	Positioned Wrong <input type="checkbox"/>						
		Heat Treat <input type="checkbox"/>	Cut Too Short <input type="checkbox"/>	Mislabeled <input type="checkbox"/>	Power Loss/Surge <input type="checkbox"/>	Other <input type="checkbox"/>					
		Inspection Strip in Tube <input type="checkbox"/>	Drawing <input type="checkbox"/>	Misread <input type="checkbox"/>							
		Marks/Chatter <input type="checkbox"/>	Drill Holes <input type="checkbox"/>	Off-set <input type="checkbox"/>							
		Turning Sequence <input type="checkbox"/>	Finish <input type="checkbox"/>	Out of Calibration <input type="checkbox"/>							
		Wave/Twist in Tube <input type="checkbox"/>	Fit/Function <input type="checkbox"/>	Out of Sequence <input type="checkbox"/>							

8 7 6 5 4 3 2 1

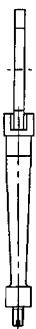
QTY -041	QTY -043	QTY -045	PART NUMBER	DESCRIPTION
X			D3407-041	TOW RING
	X		D3407-043	TOW RING
		X	D3407-045	TOW RING
1			D3407-1	STEM
	1		D3407-3	STEM
1	1	1	D3407-5	RING
		1	D3407-7	STEM

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

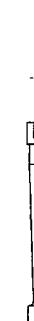
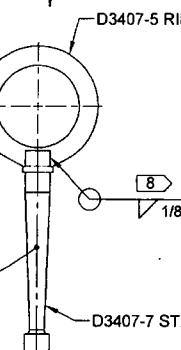
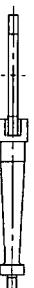
NO. 119642 MCLJ
1405-23



D3407-041 TOW RING



D3407-043 TOW RING



D3407-045 TOW RING

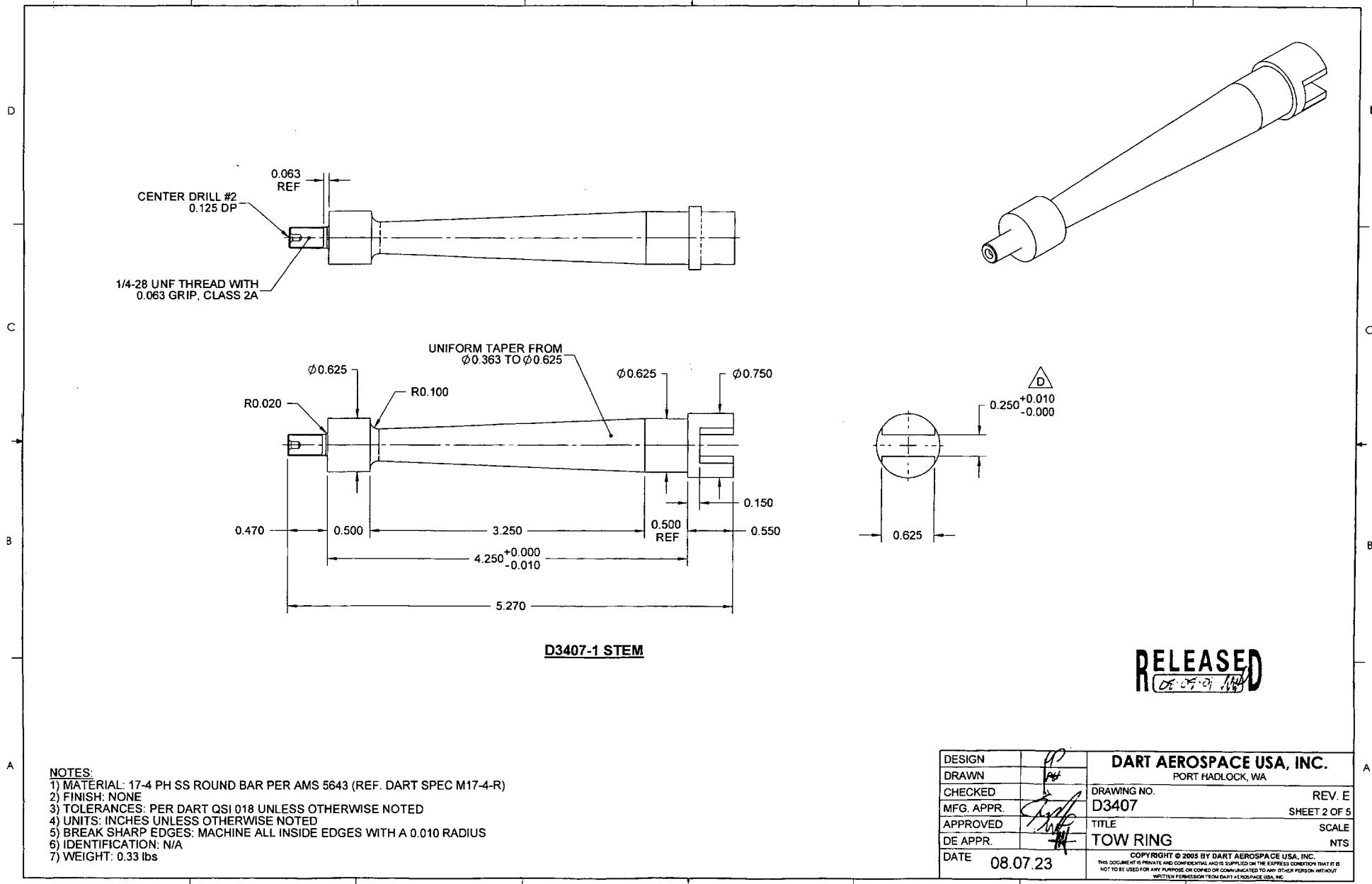
RELEASED
07.05.2014

A NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: POWDER COAT WHITE (4.3.5.2) PER DART QSI 005 4.3 (EXCEPT THREADS)
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3407-XXX" USING BLACK FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: D3407-041 - 0.60 lbs, D3407-043 - 0.53 lbs, D3407-045 - 0.61 lbs
- 8) WELD PER DART QSI 004 ON ALL EDGES BETWEEN STEM AND RING

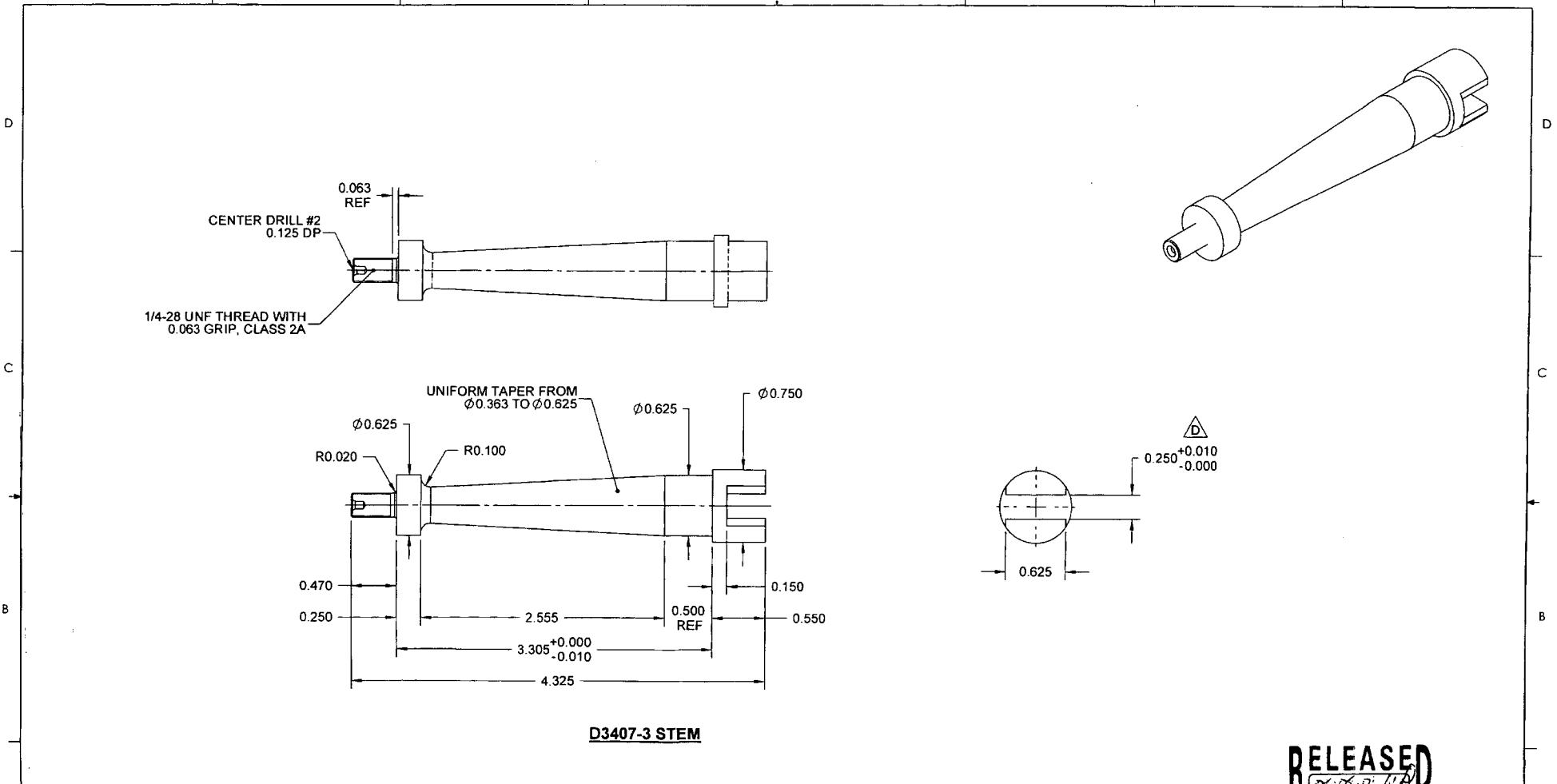
E	ADD D3407-045 (ZN B2-1, D8-1); ADD D3407-7 (ZN 96-5); REVISED NOTE 5 TO ADD IDENTIFICATION (ZN A5-1); REASON: PRODUCTION FACILITY	PH	08.07.23
D	D3407-1/3 SLOT WAS ROUND NOW FLAT FOR ASSEMBLY WITH D3407-5 (ZN C2-2, C2-3); D3407-5 WAS ROUND NOW FLAT ON ONE END FOR ASSEMBLY WITH D3407-1/3 (ZN B6-4); REASON: PRODUCTION FACILITY	PH	08.04.07
C	-1/3 LONGER FOR FIT WWASHER	CP	05.09.09
B	UPDATE DIAMETER, THREAD CLASS ADDED	CP	05.06.17
A	NEW ISSUE	CP	05.03.16
REV.	DESCRIPTION	BY	DATE
DESIGN	<i>PD</i>		
DRAWN	<i>PD</i>		
CHECKED		DRAWING NO.	REV. E
MFG. APPR.	<i>PD</i>	D3407	SHEET 1 OF 5
APPROVED	<i>PD</i>	TITLE	SCALE
DE APPR.	<i>PD</i>	TOW RING	NTS
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8 7 6 5 4 3 2 1



DESIGN	PP	DART AEROSPACE USA, INC.
DRAWN	PP	PORT HADLOCK, WA
CHECKED		REV. E
MFG. APPR.	<i>MM</i>	D3407
APPROVED	<i>MM</i>	SHEET 2 OF 5
DE APPR.	<i>MM</i>	TITLE
		SCALE
		NTS
DATE	08.07.23	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR ON ANY DATE OTHER THAN THAT FOR WHICH IT WAS PROVIDED WRITTEN FEBRUARY 2005 DART AEROSPACE USA, INC.

8 7 6 5 4 3 2 1



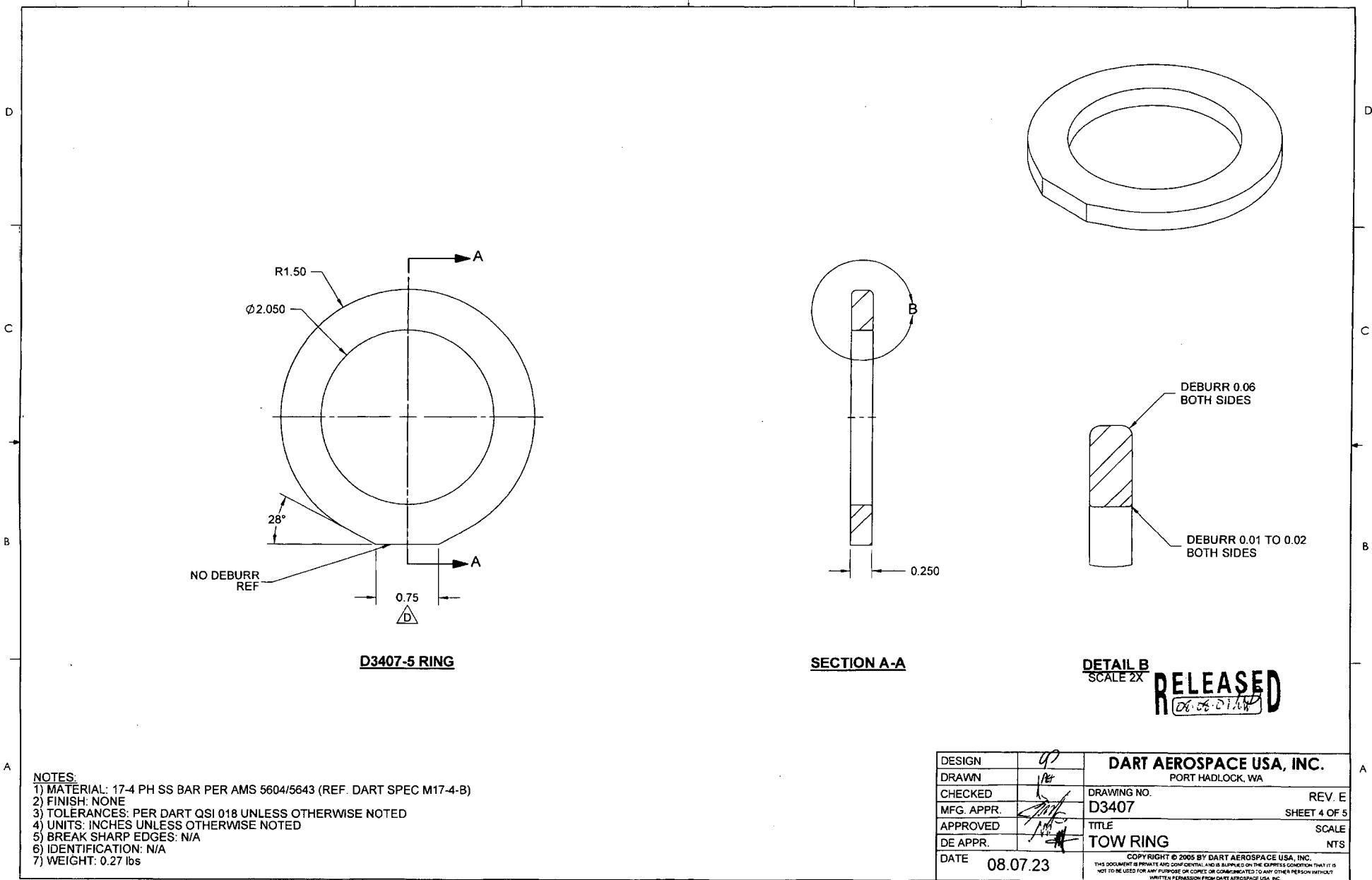
RELEASED
08-08-01 NY

A 8 7 6 5 4 3 2 1

- NOTES:**
- 1) MATERIAL: 17-4 PH SS ROUND BAR PER AMS 5643 (REF. DART SPEC M17-4-R)
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: MACHINE ALL INSIDE EDGES WITH A 0.010 RADIUS
 - 6) IDENTIFICATION: N/A
 - 7) WEIGHT: 0.27 lbs

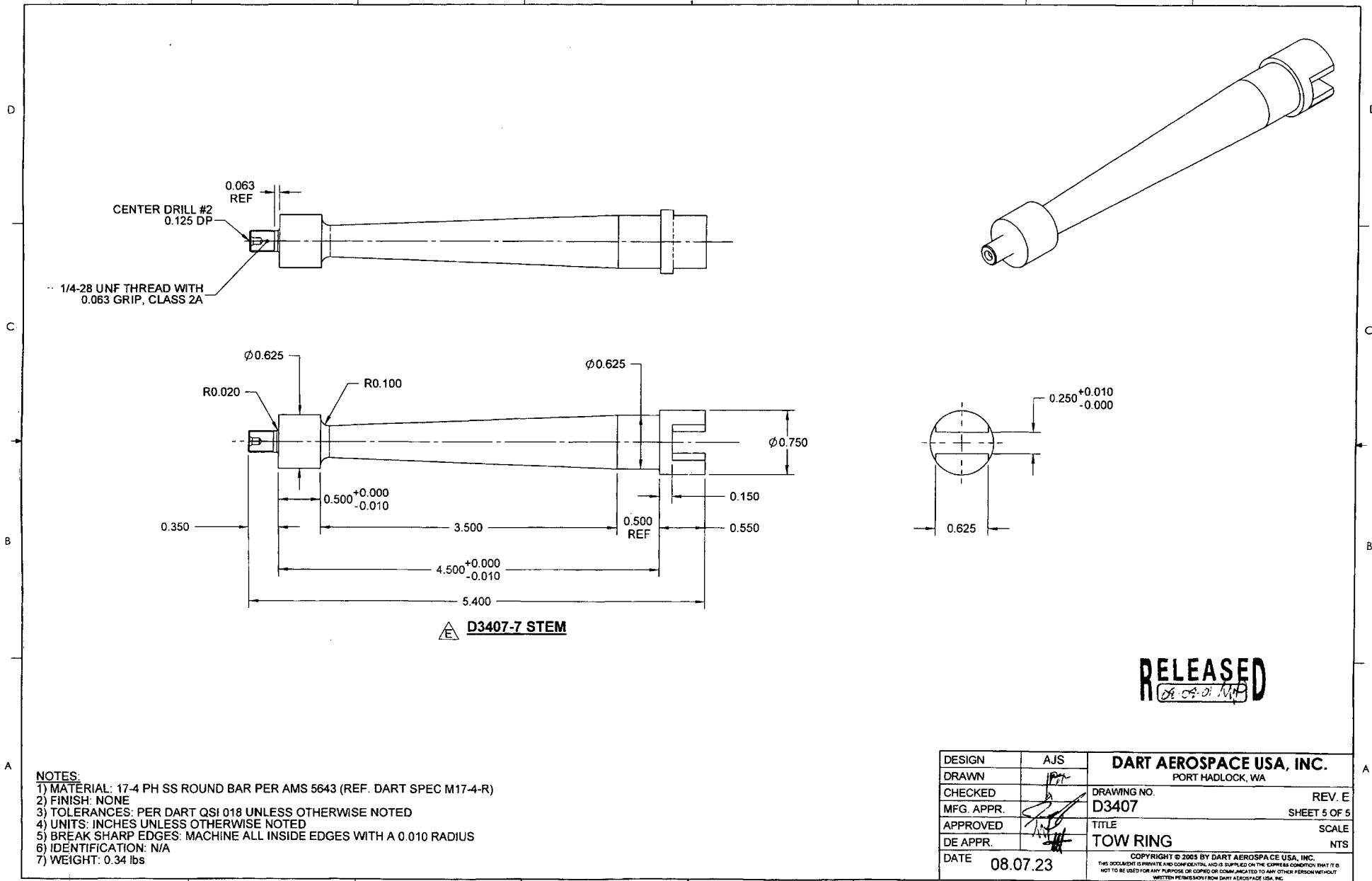
DESIGN	PP	DART AEROSPACE USA, INC.
DRAWN	PP	PORT HADLOCK, WA
CHECKED	S	DRAWING NO. REV. E
MFG. APPR.	GJ	D3407 SHEET 3 OF 5
APPROVED	JW	TITLE SCALE
DE APPR.	H	TOW RING NTS
DATE	08.07.23	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL. IT IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OTHER THAN THE ORIGINAL CONTRACTUAL AGREEMENT WITH OTHER PERSONS WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.

8 7 6 5 4 3 2 1



8 7 6 5 4 3 2 1

8 7 6 5 4 3 2 1



DESIGN	AJS	DART AEROSPACE USA, INC.	
DRAWN	IPM	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. E
		D3407	SHEET 5 OF 5
MFG. APPR.		TITLE	SCALE
APPROVED		TOW RING	NTS
DE APPR.			
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